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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/059,162	01/31/2002	Nobuaki Kubo	020099	6528

23850 7590 09/03/2003

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EXAMINER

GEISEL, KARA E

ART UNIT PAPER NUMBER

2877

DATE MAILED: 09/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/059,162

Applicant(s)

KUBO ET AL.

Examiner

Kara E Geisel

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).
The certified copy has been filed in this application on January 31st, 2002.

Information Disclosure Statement

The information disclosure statement filed on May 14, 2002 has been fully considered by the examiner.

Specification

The abstract is too long. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. Correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 1-16 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claims are generally indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. The method must be stated in active steps. The method must be organized and correlated in such a manner as to present a complete, sequentially ordered, method.

Claim 1 recites the limitation "the volume formulation ratio" in lines 6-7, "the data" in line 9, "the color of each one of two or more paints" in lines 9-10, "the blending ratio" in line 10, "the measured data"

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in line 14, and “the calorimetric value” in line 15. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites the limitation “the spectral reflectance” in line 6, “the difference from the calorimetric value” in line 7, and “the means for enhancing the color matching precision” in lines 9-10. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation “the calorimetric means of paint supplies” in line 2, and “the measuring position” in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation “the calorimetric means of paint supplies” in line 2, and “the measuring position” in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation “the data” in line 7, “the color of each one of two or more paints” in line 8, “the measured data” in line 12, and “the calorimetric value” in line 13. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation “the spectral reflectance” in line 5, “the difference from the calorimetric value” in lines 6-7, and “the means for enhancing the color matching precision” in lines 8-9. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation “the calorimetric means of paint supplies” in line 2, and “the measuring position” in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation “the calorimetric means of paint supplies” in line 2, and “the measuring position” in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claims 9-16 recites the limitation “the manufacturing process of paint” in 3. There is insufficient antecedent basis for this limitation in the claim.

Claims, which are dependent from claims 1-16 inherit the problems of these claims, and are therefore also rejected under 35 U.S.C. 112, second paragraph.

Claim Rejections - 35 USC § 102

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 9, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kettler et al. (USPN 5,929,998).

In regards to claims 1 and 5, Kettler discloses a paint color matching method for determining a blending ratio of colorants and luster color materials conforming to a target color (column 1, lines 3-9), wherein the paint can be a solid color, a metallic, or a pearlescent paint composed of plural colorants and luster color materials (column 8, lines 1-13), comprising measuring a target color (column 5, lines 10-27), computing and predicting a reproduced color using the measured target color and data in the memory of a computer (column 3, lines 43-60), using a computer to determine the blending ratio of colorants and luster color materials to conform to a target color (column 7, lines 6-41), varying the color of the paint in liquid form by varying the blending ratio of usable colorants and luster color materials, measuring the varied color of the liquid paint by color measuring means (column 7, lines 42-49), considering a change in a calorimetric value due to differing the blending ratio of the colorants and luster material (columns 2-3, lines 37-67 and 1-39, respectively), and adjusting the blending ratio to match a target color of the liquid paint (column 7, lines 50-67) by computation.

In regards to claims 9 and 13, the color matching method is applied to the manufacturing process of paint (column 7, lines 42-58), wherein the computer judges if the calorimetric value is within a preset allowable range or not, and the manufacturing process of the paint is managed on the basis of this judgment (column 7, lines 42-67).

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2, 6, 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kettler et al. (USPN 5,929,998) as applied to claims 1 and 5 above, in view of Campo et al. (USPN 5,559,173).

In regards to claims 2 and 6, Kettler discloses that data of calorimetric values and blending ratios associated to a paint, which is composed of plural colorants, is stored in the computer memory, and that predicting and computing the target color can be done by measuring spectral reflectance (column 2, lines 35-51). Kettler does not disclose using fuzzy inference to enhance the color matching.

Campo discloses a method for controlling the color of a polymer in the process of manufacturing the polymer (columns 1-2, lines 64-67 and 1-4, respectively). Fuzzy inference is used for controlling this process in order to develop a relationship between color signal values and pigment concentration adjustments in imprecisely defined conditions (column 11, lines 18-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use fuzzy inference to

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enhance color matching in Kettler's device in order to develop a relationship between color signals values and pigment concentration in imprecisely defined conditions.

In regards to claims 10 and 14, the color matching method is applied to the manufacturing process of paint (Kettler column 7, lines 42-58), wherein the computer judges if the calorimetric value is within a preset allowable range or not, and the manufacturing process of the paint is managed on the basis of this judgment (Kettler column 7, lines 42-67).

Claims 3, 7, 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kettler et al. (USPN 5,929,998) as applied to claims 1 and 5 above, in view of Falcoff et al. (USPN 4,511,251).

In regards to claims 3 and 7, Kettler discloses using an illumination light (fig. 1A, light source) to emit light that is reflected off of a measuring position (fig. 1, sample) and the reflected light is examined by spectral analysis (column 2, lines 35-51). Kettler does not disclose a means to continuously supply the paint to the measuring position.

Falcoff discloses an apparatus for measuring the color of liquid paints as they are being mixed (fig. 2, column 1, lines 7-17). The apparatus comprises a means to continuously supply the paint being mixed to a measuring position (fig. 2, 1). This is done so that, while mixing the paint, the user can get an in-process reading to tell if the paint meets the particular parameters (column 4, lines 8-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a means to continuously supply the paint being mixed in Kettler's method to a measuring position in order to have an in-process reading of the parameters of the paint, to see if the paint needs to still be mixed, or if it has matched the reference paint.

In regards to claims 11 and 15, the color matching method is applied to the manufacturing process of paint (Kettler column 7, lines 42-58), wherein the computer judges if the calorimetric value is within a preset allowable range or not, and the manufacturing process of the paint is managed on the basis of this judgment (Kettler column 7, lines 42-67).

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Claims 4, 8, 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kettler et al. (USPN 5,929,998) as applied to claims 1 and 5 above, in view of Campo et al. (USPN 5,559,173), as applied to claims 2 and 6 above, and further in view of Falcoff et al. (USPN 4,511,251).

In regards to claims 4 and 8, Kettler discloses using an illumination light (fig. 1A, light source) to emit light that is reflected off of a measuring position (fig. 1, sample) and the reflected light is examined by spectral analysis (column 2, lines 35-51). Kettler does not disclose a means to continuously supply the paint to the measuring position.

Falcoff discloses an apparatus for measuring the color of liquid paints as they are being mixed (fig. 2, column 1, lines 7-17). The apparatus comprises a means to continuously supply the paint being mixed to a measuring position (fig. 2, 1). This is done so that, while mixing the paint, the user can get an in-process reading to tell if the paint meets the particular parameters (column 4, lines 8-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a means to continuously supply the paint being mixed in Kettler's method to a measuring position in order to have an in-process reading of the parameters of the paint, to see if the paint needs to still be mixed, or if it has matched the reference paint.

In regards to claims 12 and 16, the color matching method is applied to the manufacturing process of paint (Kettler column 7, lines 42-58), wherein the computer judges if the calorimetric value is within a preset allowable range or not, and the manufacturing process of the paint is managed on the basis of this judgment (Kettler column 7, lines 42-67).

Additional Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art made of record is Snyder et al. (USPN 5,907,495), Kettler et al. (USPN 6,064,487), Numata et al. (USPN 6,539,325), and Hustert (US Pub 2001/0043329).

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Snyder discloses a method of color matching the color of a measured paint to a paint formulation by characterizing color coordinates in a 3-D color space.

Kettler discloses a method for calculating a formulation of a paint based on the measured color of the paint, especially for special effect type paints.

Numata discloses a method and apparatus for color matching automotive repair paints using a computer, a color data file, and fuzzy inference.

Hustert discloses an apparatus for measuring calorimetric values of liquid paint, in order to determine if the color of the paint matches predetermined parameters.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kara E Geisel whose telephone number is 703 305 7182. The examiner can normally be reached on Monday through Friday, 8am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 703 308 4881. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9318 for regular communications and 703 872 9319 for After Final communications. For inquiries of a general nature, the Customer Service fax number is 703 872 9317.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 1782.

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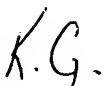
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F.L. Evans

Primary Examiner

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KEG

August 25, 2003